"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

KULIKOV, Ye. I., et al., Izvestiya VUZov SSSR-Radioelektronika, Vol 13, No 2, 1970, pp 144-151

mixed signal, are considered: first, the initial phase is precisely known; second, the initial phase is a definite unknown quantity, or it is assumed to be a random quantity with uniform distribution in the interval of $0 \rightarrow 2\pi$; third, the initial phase is a random quantity with a known a priori distribution other than uniform.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

1/2 023 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--EFFECT OF A PRIORI INITIAL PHASE DISTRIBUTION IN ESTIMATING THE PARAMETER OF A NARROW BAND SIGNAL IN NOISE -U-

AUTHOR-(02)-KULIKOV, YE.I., TRIFONOV, A.P.

COUNTRY OF INFO--USSR

SOURCE--KIEV, IZVESTIYA VUZOV SSSR RADIOELEKTRONIKA, VOL 13, NO 2, 1970, PP 144-151

DATE PUBLISHED--------70

SUBJECT AREAS--NAVIGATION

TOPIC TAGS--SIGNAL NOISE SEPARATION, NARROW BAND TRANSMISSION, RADIO ENGINEERING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1991/1450 STEP NO--UR/0452/70/013/002/0144/0151

CIRC ACCESSION NO--AP0110943

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

2/2 023 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0110943

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DETERMINATION OF THE EFFECT OF A PRIORI KNOWLEDGE OF THE INITIAL PHASE ON THE ACCURACY WITH WHICH THE PARAMETERS OF THE SIGNALS ON A BACKGROUND OF NORMAL NOISE ARE OPTIMALLY ESTIMATED IS OF PRACTICAL INTEREST IN THE RECEPTION OF NARROW BAND SIGNALS IN VARIOUS FIELDS OF RADIO ENGINEERING, COMMUNICATIONS, RADAR, TELEMETERING, AND THE LIKE. THIS ARTICLE CONSIDERS THIS EFFECT BY PROPOSING A PROBLEM IN WHICH AN ADDITIVE SIGNAL AND NOISE MIXTURE IS INPUT TO A RECEIVER OVER A PERIOD OF TIME, THE SIGNAL BEING NARROW IN FREQUENCY RANGE AND THE NOISE NORMAL WITH ZERO AVERAGE VALUE AND A DEFINITE CORRELATION FUNCTION. THE ASSUMPTION IS MADE THAT THE PARAMETER CAPABLE OF ESTIMATION BELONGS TO A CLASS OF NONENERGETIC PARAMETERS, I.E., THE ENERGY OF THE USEFUL SIGNAL IS INDEPENDENT OF THE ACTUAL VALUE OF THE PARAMETER. THREE POSSIBLE CASES OF RELATIVELY A PRIORI KNOWLEDGE OF THE INITIAL PHASE, IN THE RECEPTION OF THE MIXED SIGNAL, ARE CONSIDERED: FIRST, THE INITIAL PHASE IS PRECISELY KNOWN; SECOND THE INITIAL PHASE IS A DEFINITE UNKNOWN QUANTITY, OR IT IS ASSUMED TO BE A RANDOM QUANTITY WITH UNIFORM DISTRIBUTION IN THE INTERVAL OF 0 YIELDS 2 PI; THIRD, THE INITIAL PHASE IN A RANDOM QUANTITY WITH A KNOWN A PRIORI DISTRIBUTION OTHER THAN UNIFORM.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

UDC 616-001.28-07[616.144+616.423]-091

KHUBAYBERDYEV, R. I., KULIKOV, Yu. A., and NURMUKHAMEDOV, B. N., Department of Normal Anatomy of the Tashkent Medical Institute

"State of the Venous and Lymph Network Under Conditions of Ionizing Radiation"

Moscow, Meditsinskaya Radiologiya, Vol 16, No 3, Mar 71, pp 50-53

Abstract: After a single exposure to gamma-radiation (400 r) 112 rabbits were subjected to resection of fragments of the major veins of the extremeties and to removal of the popliteal lymph nodes. The venous and lymph beds of the extremities was studied for one year. Dynamics of the restoration of blood and lymph flows were studied by venography and lymphography. The venous bed in the operated extremities underwent restoration with formation of strong myogenic collaterals within 2-3 months. Under conditions of irradiation, this restoration process is considerably altered. During the first 2-3 days the network of fine vessels and the diameter of cutaneous vessels is considerably enlarged in the operated as well as in the control extremities. Subsequently, in the period of latent radiation sickness (up to the 8-10th day), the vascular channel in the unoperated extremity is almost normalized, whereas in the operated extremity, it remains the same as during the previous days. Also the vessels in both extremities are

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

KHUBAYBERDYEV, R. I., et al., Meditsinkaya Radiologiya, Vol 16, No 3, Mar 71, pp 50-53

dilated, which indicates congestive phenomena. Restoration is considerably prolonged, up to the 110-120th day. In the case of the lymph system, the lymph outflow is restored within 6 months of the operation, whereas under the conditions of radiation sickness, the lymph outflow is not completely restored even after one year.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

UDC 615.825.015.4:616-005.5

KHUDAYBERDIYEV, R. I., [illegible], Chair of Normal Anatomy, Tashkent Medical Institute

"Active Movement as a Stimulant of Collateral Circulation (Experimental Study)"

Moscow, Voprosy Kurortologii Fizioterapii i Lechebnoy Fizicheskoy Kul'tury, No 4, Jul/Aug 70, pp 334-338

Abstract: Physical exercise (running on a treadmill) greatly accelerated the restoration of impaired blood circulation in rabbits from which portions of the femoral or external iliac artery had been resected. Collaterals developed 20-30 and 30-40 days sooner (after resection of the femoral and external iliac artery, respectively) than in animals that were not exercised after similar operations. Exercise also hastened the reconstruction of the venous bed of the extremities, causing collaterals to form 20 to 30 days sooner than in controls. Study of the arteries and veins of the unoperated extremities showed that the diameter of the main blood vessels increased somewhat during the experiment and that a network of small arteries and veins developed during the first 20-30 days.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

1/2 025 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--EFFECT OF PHYSICAL LOAD ON DEVELOPMENT OF COLLATERAL CIRCULATION FOLLOWING IMPAIRED BLOOD DRAINAGE -U-

AUTHOR-(02)-KHUDAYBERDYEV, R.I., KULIKOV, YU.A.

CCUNTRY OF INFO--USSR

SCURCE--ARKH ANAT GISTOL EMBRIOL 58(1): 83-88. ILLUS. 1970

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BLOOD VESSEL, BLOOD CIRCULATION, SURGERY, MICROSCOPY, TISSUE REGENERATION, EXERCISE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1091 STEP NO--UR/9076/70/058/001/0083/0088

CIRC ACCESSION NO--AP0126518

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

UNCLASSIFIED PROCESSING DATE--30OCT70

2/2 025

CIRC ACCESSION NO--AP0128518

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXCISION OF FRAGMENTS FROM THE MAJOR VEINS OF THE LOWER EXTREMITIES IN RABBITS BRINGS ABOUT CONSIDERABLE CHANGES IN THE VENOUS CIRCULATION OF THESE LIMBS, POWERFUL MUSCULAR COLLATERALS BEING FORMED WITHIN 2 MO. POSTOPERATIVELY. CHANGES IN THE MICROSCOPIC STRUCTURE OF VEINS WERE REVEALED IN EVERY ORGAN AND TISSUE OF THE THIGH. AT FIRST THESE ARE MOSTLY DUE TO DESTRUCTIVE PROCESSES, FOLLOWED BY REPARATIVE REGENERATION. IN THE CASE OF INTRA ORGANIC MUSCULAR VEINS, THESE PROCESSES OCCUR WITHIN 90-120 DAYS AFTER THE OPERATION. BY 120 DAYS COLLATERALS ARE FORMED, HAVING A WELL DEVELOPED MUSCULAR ELASTIC FRAMEWORK. EXERCISE IS AN EFFECTIVE METHOD FOR STIMULATING DEVELOPMENT OF COLLATERAL BLOOD FLOW, GROSS APPEARANCE OF THESE CHANGES OCCURRING 30 DAYS EARLIER, MICROSCOPIC EVIDENCE OF THE FORMATION OF COLLATERAL VESSEL WALL BECOMING APPARENT 60 DAYS IN ADVANCE OF CONTROL. FACILITY: DEP. NORM. ANAT., TASHKENT STATE MED. INST., TASHKENT, USSR.

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

Refrigeration, Air-Conditioning, Cryogenic

USSR UDC: 621.541

ROMANENKO, N. T., Doctor of Technical Sciences, Professor, PRUDNIKOV, S. N., Candidate of Technical Sciences, KULIKOV, Yu. F., Engineer, Moscow Higher Technical Academy imeni N. E. Bauman

"Pneumatic Damping in Pneumatic Cryogenic Equipment"

Moscow, Izvestiya VUZov: Mashinostroyeniye, No 7, 1973, pp 83-87

Abstract: The paper gives the results of a theoretical and experimental study of pneumatic valve drives aimed at developing drives with a predetermined law of speed variation and actuation time. It is shown that when special deceleration devices are used it is possible to reduce the speed of valve seating and to obtain the proper actuation time. Analytical expressions are found for approximate determination of the speed of the pneumodrive piston.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

UDC 533.951538.4

USSR

SAMARSKIY, A. A., Corresponding Member of the Academy of Sciences USSR, KURDYUMOV, S. SP., KULIKOV, YU. N., LESKOV, L. V., POPOV, YU. P., SAVICHEV, V. V., and FILIPPOV, S. S., Institute of Applied Mathematics, Academy of Sciences USSR, Moscow

"Magnetohydrodynamic Model of Unsteady Plasma Acceleration"

Moscow, Doklady Akademii Nauk SSSR, Vol 206, No 2, 1972, pp 307-310

Abstract: During an experimental study of pulsed plasma accelerators, some physical phenomena were discovered which cannot be explained within the framework of existing simplified models: viz., the existence of a laminated structure for the ejected plasma formation, motion counter to the accelerating ampere force, the presence of high-multiplicity ions in the plasma, heating up of the plasma to high temperatures in narrow sections, etc. Therefore, the authors undertook to calculate the dynamics of plasma formations in pulsed accelerators, with allowance for the spatial distribution of the physical characteristics of the plasma, radiation, and nonlinear effects in the plasma. As a result of computer-aided calculations, density, velocity, temperature,

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

SAMARSKIY, A. A., et al., Doklady Akademii Nauk SSSR, Vol 206, No 2, 1972, pp 307-310

current, and the magnetic field along the direction of motion were determined. It is shown that there are nonlinear mechanisms leading to the appearance of heated current layers (T-layers) in the medium, separated by intervals of relatively cold gas. The T-layers evolve and generate shock waves which propagate on both sides, and this leads in turn to the production of new T-layers, the formation of plasma clusters and their interaction, the return motion of the substance, and the appearance of closed current loops in the plasma. A study is made of the energy balance in the accelerator and the time redistribution of individual forms of energy.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

UDC 621.373.421.13:621.372.412

MOSTYAYEV, V. A., KULIKOV, YU. P.

"Tuning Low-Frequency Quartz Resonators by Laser Emission"

Elektron. tekhnika. Nauchno-tekhn. sb. (Electronic Engineering. Scientific and Technical Collection), 1970, ser 9, vyp. 2, pp 99-104 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9D280)

Translation: This article contains a description of a procedure for frequency tuning of low frequency quartz resonators by laser emission. Experimental data are presented for the magnitude and accuracy of tuning the resonators with circuit, longitudinal and bending oscillations. It is demonstrated that when tuning low-frequency resonators by laser emission no changes in the equivalent resistances and conductances, Q-factor and temperature-frequency characteristics take place. There are seven illustrations and a three-entry bibliography.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

UDC: 681.327

USSR

KULIKOV, Yu. S.

"Using Magnetic Thin Films As Associative Devices"

Moscow, Magnit. elementy avtomatiki i vychisl. tekhn. XIV Vses. soveshch., 1972. Ref. dokl. (Magnetic Elements in Automation and Computer Technology. Fourteenth All-Union Conference, 1972. Abstracts of Papers), 1972, pp 105-107 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 1, Jan 73, abstract No 1B407 by B. K.)

Translation: The author discusses various modifications of associative memory elements realized by a thin magnetic film. Associative memory elements operate on the principle of interaction of domain peaks in low-coercion channels. The associative memory element is formed by a series of such channels of definite geometry located in the high-coercion mass of the film. The information is stored in the channels in the form of domains of reverse magnetism propagated by an external magnetic field of a certain magnitude and direction.

It is pointed out that an associative memory element of the given type enables recording, nondestructive readout, erasure, and logical processing of stored information in realization of the "Nonequivalence", "Greater

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

KULIKOV, Yu. S., Magnit. elementy avtomatiki i vychisl. tekhn. XIV Vses. soveshch., 1972. Ref. dokl., 1972, pp 105-107

Than",and "Less Than" functions. One of the investigated specimens of an associative memory element measuring 0.35 x 1.0 mm had an interrogation time of 400 ns. Comments are made on organizing a storage matrix based on these associative memory elements, and it is noted that in view of the possibility of arbitrary access to any associative memory element in the matrix,it can be used not only for constructing an associative store but also for creating an associative processor on this base. Two illustrations.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

UDC 669.713.1

USSR

KULIKOV, Yu. V.

"Testing of Additives of Lithium Salts in Electrolysis of Aluminum"

Tsvetnyye Metally, No 3, Mar 71, pp 53-55.

Abstract: Empirical formulas are presented for calculation of the losses of lithium carbonate with exhaust dust, with carbon lining material (during replacement), with carbon foam, and with the cast metal. An equation is presented illustrating the relationship of the consumption of lithium salt to its daily consumption and the productivity of the electrolyzer.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

1/2 032 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--OPERATIONAL FEATURES OF HEAVY DUTY ALUMINUM ELECTROLYTIC CELLS WITH VARIOUS ALUMINA FEED RATES -U-

AUTHOR-(03)-KULIKOV, YU.V., KULESH, M.K., POTYLITSYN, G.A.

COUNTRY OF INFO--USSR

SOURCE--TSVET. METAL. 1970, 43(3), 34-6

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--ELECTROLYTE, ALUMINUM, ALUMINUM OXIDE, CHEMICAL REACTION RATE, ELECTROLYTIC CELL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1901 STEP NO--UR/0136/70/043/003/0034/0036

CIRC ACCESSION NO--AP0132163

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

2/2 032 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0132163

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THREE GROUPS OF CELLS USING A SINGLE ELECTROLYTE COMPN. BUT WITH DIFFERENT METHODS AND AREAS OF FEEDING THE AL SUB2 O SUB3 WERE STUDIED. A STUDY OF THE AL SUB2 O SUB3 CHARGING RATE (EVERY 4 HR (12 TIMES); EVERY 3 HR (15 TIMES); AND EVERY 2 HR (24 TIMES)) SHOWED THAT AT THE 3 HR RATE THE TEMP. OF THE ELECTROLYTE WAS 1DEGREE LOWER THAN AT THE 4 HR RATE AS A RESULT OF DECREASED LOSS OF THE CATHODIC METAL. IN THE CASE OF THE 2 HR RATE, THE TEMP. WAS 2DEGREES LOWER THAN THAT OF THE 3 HR RATE. THIS 2 HR FEED RATE WITH COMBINED CRUST BREAKING AND AL SUB2 O SUB3 FEEDING IS NOT THE OPTIMUM, BECAUSE MORE FREQUENT FEEDING DECREASES THE NO. OF ANODE EFFECTS AND IMPROVES THE PROCESS. THE SELECTION OF THE FEED CYCLE DEPENDS ON THE PURITY OF THE AL SUB2 O SUB3, ELECTROLYTE COMPN., CONDITION OF THE ANODE, C.D., AND THE GEOMETRY OF THE CELL.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR UDC 535.8:535.214.4

FEDOSEYEV, L. I., KULIKOV, YU. YU.

"Superheterodyne Millimeter and Submillimeter Wave Radiometers"

Moscow, Radiotekhnika i Elektronika, Vol XVI, No 4, 1971, pp 554-560

Abstract: This article contains an investigation of some possibilities of using interferometers in superheterodyne superhigh-intermediate frequency radiometers. In these radiometers, the interferometer plays the role of a directional coupler and a special device for suppressing stray modulation. Mach-Zehnder interferometers and incorporation of them in radiometers, modulation and measurement of the derivative spectrum, and the structural features and parameters of 1.1-1.6 mm and 0.8-1.0 mm radiometers are discussed. It is noted that a 1.1-1.6 mm radiometer without additional devices for stray signal separation has operated for about a year under field conditions of investigation of the radio wavelength emission of the Earth's atmosphere, the sun and the moon.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR UDC 577.153

BOGOLYUBOVA, G. M., KARPINSKAYA, Ye. V., KULIKOVA, A. I., and ROZENGART, V. I., Chair of Biochemistry, First Leningrad Medical Institute imeni Academician I. P. Pavlov

"The Protective Effect of Substrates During Inhibition of Various Cholinesterases by an Organophosphorus Inhibitor"

Moscow, Biokhimiya, Vol 36, No 5, 1971, pp 1,075-1,081

Abstract: The reaction between the organophosphorus inhibitor CD-7 O-ethyl S-ethylmercaptoethyl methylthiophosphonate and three different cholinesterases -- horse serum cholinesterase (HSC), bull erythrocyte acetylcholinesterase (BEA), and squid optical ganglion cholinesterase (OGC) -- was investigated in the presence of three substrates -- acetylcholine (AC), propionylcholine (PC), and butyrylcholine (BC) -- in various concentrations. It was found that the rate constant of the reaction of the organophosphorus inhibitor with the enzymes is decreased in the presence of the substrates. A quantitative correlation was established between the reduction in the above rate constant and the concentration of the substrates. OGC is protected by AC more than by PC or BC, while HSC and BEA are protected equally by any one substrate. When BC is present in sufficiently high concentrations,

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

BOGOLYUBOVA, G. M., et al., Biokhimiya, Vol 36, No 5, 1971, pp 1,075-1,081

the organophosphorus inhibitor becomes totally inert, because it cannot interact with butylated cholinesterase. It is believed that the hydrolysis of BC by OGC and HSC is inhibited by the formation of acylated enzymes, while the hydrolysis of AC and PC is inhibited by deacylation.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR UDC 678.049:66.018.8

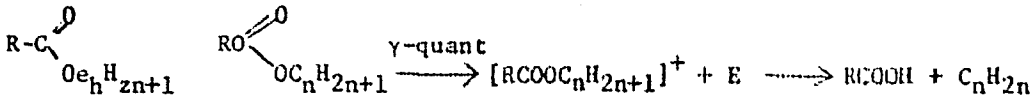
KRYLOVA, S. V., KULIKOVA, A. Ye., OBCHINNIKOV, Yu. V., BERLYANT, S. M.

"Effect of γ-Irradiation on the Stability of Polyvinyl Chloride Plasticizers"

Moscow, Plasticheskiye Massy, No 1, 1973, pp 16-18

Abstract: A study was made of the effect of γ-radiation on the chemical stability of phthalic esters, sebacic acid and adipic acid and the effect of the nature of the acid and alcohol radicals of plasticizers on their behavior during γ-radiation. γ-Irradiation of plasticizers leads to a sharp increase in their acidity; therefore, variation of this index was taken as one of the criteria for evaluating the degree of decomposition of the plasticizers. The degree of composition depends, significantly on the length of the alcohol radical. With an increase in length of this radical the acidity of the plasticizer and ΔN increase (N is the number of carboxyl groups in the plasticizer).

The decomposition of the esters was described as follows:



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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

KRYLOVA, S. V., et al., Plasticheskiye Massy, No 1, 1973, pp 16-18

The results of the effect of the nature of the alkyl radical of esters of phthalic acid on their resistance to γ-radiation and the effect of the -ature of the acid radical on the resistance of polyvinyl chloride plasticizers to γ-radiation are tabulated. After subjecting dioctyl phthalate and dioctyl adipate to γ-radiation with different initial acidity it was found that the greater the initial acidity of these compounds, the less the relative increase in acidity after irradiation. The increase in acidity for dioctyl phthalate after irradiation was always less than for dioctyl adipate. Thus, dioctyl phthalate has self-defensive properties with respect to γ-radiation. The high stability of "acid" plasticizers can be explained by the fact that the high content of free carboxylic acid in the initial esters prevents their decomposition under the effect of γ-radiation. The stabilization of the esters by carboxylic acid probably arises from the absorption or dissipation of some portion of the γ-radiation energy.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

1/2 021 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--POLYMERIZATION OF VINYLIDENE CHLORIDE BY A CATIONIC MECHANISM -U-

AUTHOR-(04)-KULIKOVA, A.YE., ZILBERMAN, YE.N., PINCHUK, N.M., OKLADNOV, N.A.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(4), 298-301

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--POLYMERIZATION, VINYLIDENE RESIN, CHLORIDE, CHEMICAL REACTION MECHANISM, CATALYST, ZINC CHLORIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1248 STEP NO--UR/0460/70/012/004/0298/0301

CIRC ACCESSION NO--AP0134922

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

2/2 021 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134922

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CATIONIC POLYMN. OF CH SUB2:CCL SUB2 WAS STUDIED IN THE PRESENCE OF ZNCL SUB2. UNLIKE THE POLYMN. IN THE PRESENCE OF ALCL SUB3, ZNCL SUB2 INITIATED POLYMN. GAVE MECCL SUB2 CH:CCL SUB2 AND POLY(VINYLIDENE CHLORIDE). A REACTION MECHANISM WAS PROPOSED.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

UDC 615.28:547.789.6

RUDZIT, E. A., LUK'YANOV, A. V., VORONIN, V. G., KULIKOVA, D. A., and RADKEVICH, T. P., All Union Scientific Chemical Pharmaceutical Research Institute imeni S. Ordzhonikidze, Moscow

"Antimicrobial Activity of Benzothiazolequinones"

Moscow, Farmakologiya i Toksikologiya, Vol 34, No 3, May-Jun 71, pp 350-352

Abstract: Antimicrobial activity of 2-substituted 4-dialkylaminobenzothiazolequinones-6,7, 6-hydroxybenzothiazolequinones-4,7, and 2-substituted-6-hydroxy(methoxy)-benzothiazoles was studied. It was determined that none of the 2-substituted 5-hydroxy(methoxy)benzothiazoles, 6-hydroxybenzothiazolequinones-4,7, nor their 5-halo or 5-piperidinomethyl substituted analogs possessed any antimicrobial activity. Only the benzothiazolequinones-6,7 with nitrogen-containing substituents in positions 2 and 4 showed bacteriostatic (including tuberculostatic) and some mycostatic activity.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

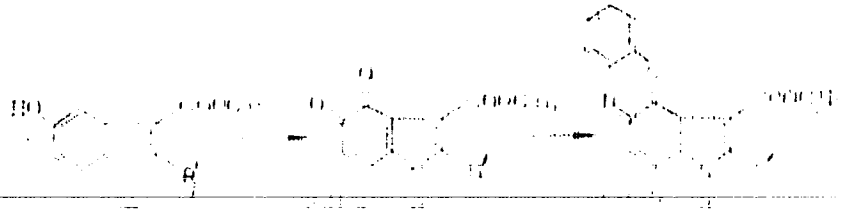
USSR UDC 615.28:547.567.012

LUK'YANOV, A. V., RUDZIT, E. A., ALESHINA, V. A., VOYENIN, V. G., RADKEVICH, T. P., KULIKOVA, D. A., LISITSA, L. I., and TSIZIN, YU. S., All-Union Scientific Research Chemics Pharmaceutical Institute imeni Sergo Ordzhonikidze, Moscow, Ministry of Health USSR

"Study of Heterocyclic Quinones. XV. Synthesis and Antimicrobial Action of Substituted Indolequinones-4,5"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 4, No 7, 1970,

Abstract: In earlier reports the authors showed that several heterocyclic quinones can be obtained by oxidation of the corresponding phenols with oxygen in the presence of a Cu^{2+}-secondary amine complex. The present report describes the use of this method for oxidation of 5-oxyindoles (I) and the study of the structures of the resulting compoinds (II) and their antimicrobial action.



APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

LUK'YANOV, A. V., et al., Khimiko-Farmatsevticheskiy Zhurnal, Vol 4, No 7, 1970, pp 16-20

a) b) c) d) e) f) (a-f) g)

It was established that all compounds tested are inactive toward tuberculosis bacillus, gram-negative bacteria, and fungi. Of correlations existing between structure and action, the following were noteworthy: 1) all tested 5-oxyderivatives of 2-methyl(or phenyl) -3-carboethoxyindole (Ia-I) do not suppress bacterial growth. 2) Antibacterial activity toward gram-positive microorganisms is exhibited by 2-methyl-3-carboethoxy-7-piperidinoindolequinones-4,5 containing an aryl substituent at N_1 (IIb-IIf). 3) Phenazine derivatives (IIIa-IIIf) of o-quinones (IIa-IIf) do not exhibit antibacterial action. Results of this study show the value of searching for new antibacterial preparations among the new series of o-quinones of 2-methyl-3-carboethoxy-7-piperidinoindole.

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Acc. Nr: AP0036819 Ref. Code: UR 0016

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, 1970, Nr 1, pp 64-70

IMMUNITY AND IMMUNOLOGICAL TOLERANCE TO BACTERIAL ANTIGENS. REPORT II. STUDY OF SUSCEPTIBILITY AND IMMUNITY IN ALBINO MICE TOLERANT TO BRUCELLAE

M. P. Kozlov, O. G. Kulikova

The authors present the results of studying the immunological reactivity and susceptibility to brucellosis in mice, to which a soluble antigen was injected during the neonatal period and in which a marked delay in the formation of blood antibodies was seen. The authors came to the conclusion that in mice tolerant to brucellosis, susceptibility to this species of avirulent and virulent causative agents failed to rise, and specific reactivity did not fall.

D. R.

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UDC 616.921.44-022.9-097.3

KOZLOV, M. P. and [illegible], O. I., Scientific Institute for Control... Institute of the Caucasus and Transcaucasia

"Immunity and Immunological Tolerance for Bacterial Antigens. II. Susceptibility and Immunity in White Mice Tolerant of Brucella"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 1, 1970, pp 66-70

Abstract: Immunological tolerance for Brucella was induced in new born mice by inoculating them intraperitoneally with soluble antigen. Despite the marked decrease in antibodies, the animals' susceptibility to infection with avirulent (Br. abortus 19) and virulent (Br. abortus 438) strains remained largely unchanged. Specific immunological reactivity did not diminish in tolerant mice. Despite the marked delay in formation of agglutinins, it was possible to create a level of immunity in the tolerant animals (by vaccination at 2,4, and 8 weeks of age) equal to that in controls.

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USSR

UDC: 612.017.1.014.46:[615.357.453-615.365-576.851
42.097.5.095.18:[615.357.453-615.355

KOZLOV, M.P. and KULIKOVA, G.G., Scientific Research Antiplague Institute of the Caucasus and Transcaucasus. III. The Effect of Hydrocortisone and Cytotoxic Sera on the Formation of Antibodies to Brucella in Mice

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 5, 1970, pp 32-37

Abstract: Injection of newborn mice with large doses of hydrocortisone, antilymphocyte, antileukocyte, or normal heterologous serum reduced their immunity to bacterial antigens (Br. abortus 19). On the other hand, simultaneous injection of newborn mice with hydrocortisone or a cytotoxic serum and the same antigen produced high antibody titers, i.e., the doses of hydrocortisone or serum that decreased immunological reactivity when injected alone, had a synergistic effect on antibody formation when combined with the antigen. Repeated injection of 3-week-old mice with the same antigen gave rise to antibody titers 3.5 to 5 times higher than inthe control animals, i.e., the effect was comparable to that resulting from revaccination.

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1/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--IMMUNITY AND IMMUNOLOGICAL TOLERANCE TO BACTERIAL ANTIGENS THE EFFECT OF HYDROCORTISONE AND OF CYTOTOXIC SERA ON THE FORMATION OF

AUTHOR-(02)-KOZLOV, M.P., KULIKOVA, G.G.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 3, PP 32-37

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BRUCELLA, MOUSE, BLOOD SERUM, ANTIGEN, ANTIBODY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1484 STEP NO--UR/0016/70/000/003/0032/0037

CIRC ACCESSION NO--AP0109544

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

2/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0109544

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER TREATS OF OBSERVATIONS ON THE EFFECT OF HYDORCORTISON, ANTILYMPHOCYTIC AND LEUKOCYTIC SERUM ADMINISTERED DURING THE NEONATAL PERIOD ON PRIMARY AND SECONDARY SPECIFIC IMMUNOLOGICAL REACTIVITY TO BACTERIAL BRUCELLA ANTIGEN. ADMINISTRATION OF HYDROCORTISONE AND CYTOTOXIC SERA IN HIGH DOES LED TO REDUCTION OF PRIMARY IMMUNOLOGICAL REACTION TO THE ANTIGEN. COMBINED ADMINISTRATION TO NEONATES O HYDROCORTISONE OR OF CYTOTOXIC SERA WITH A BACTERIAL ANTIGEN INTESIFIED THE SPECIFIC IMMUNOLOGICAL REACTIVITY. REPEATED ADMINISTRATION O THE ANTIGEN AT THE AGE OF THREE WEEKS WAS ACCOMPANIED BY ACTIVE FORMATION OF ANTIBODIES ACCORDING TO REVACCINATION TYPE.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

UDC 666.192:535.323

ALEKSEYEVA, T. A., BAKHSHIYEVA, G. F., DOLADUGINA, V. S., Candidate of Chemical Sciences, and KULIKOVA, I. I.

"The Dependence of the Index of Refraction of Quarts Glass Upon the Method of its Production"

Leningrad, Optiko-Mekhanicheskaya Promyshlennost', No 4, Apr 72, pp 62-64

Abstract: In the paper are presented the results of an investigation of the refraction indexes of quarts glass obtained by various methods, from raw materials originating from various deposits. It is found that the value of the refraction index of quartz glass is determined mainly by the technology of its production, and depends practically not at all upon the initial materials. One table.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR UDC 576.858.25.083.35

REZEPOVA, A. I., KUZ'MINA, S. V., KULIKOVA, K. S., and UMANOV, S. S., Moscow Scientific Research Institute of Virus Preparations, and Institute of Biophysics, Academy of Sciences USSR

"Propagation of Some Arboviruses in New Transplanted Lines of Mouse Fibroblasts"

Moscow, Voprosy Virusologii, No 6, Nov/Dec 71, pp 704-707

Abstract: Embryonic fibroblasts of mice constitute a useful culture medium for hemagglutinating arboviruses. Though no formation of hemagglutinins occurs in the parent cells, in successive fibroblast lines hemagglutinins are produced in ample amounts by the following encephalomyelitis arbovirus strains: WEE, Sindbis, Semliki Forest, and Chikungunya (group A), and tickborne, Japanese, West Nile, St. Louis, Ntay, Bun'yamvera, and Omsk hemorrhagic fever (group B). These hemagglutinin preparations can be used to test the toxicity of the various arbovirus strains and to identify the arbovirus antibodies which were recently detected in human serum throughout the USSR.

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KULIKOVA, L. I.

DIALECTICS OF SELF-REGULATION OF FUNCTIONS OF THE ORGANISM AND THE PROBLEM OF REFLECTION

[Article by G.Kh. Shingarov, L.I. Kulikova (Moscow); Moscow, Voprosy filosofii, No 5, 1972, pp 39-46]

At the present level of development of science there is no need to prove the importance of analysis of such concepts as feedback, purposeful activity of the organism, information, and others. All of them describe, from different aspects, the process of self-regulation of functions and control in living and automatic systems.

Phenomena presently known as the chief mechanisms of the control process have been subject to investigation by different sciences for a long time. The appearance of cybernetics is related to investigation by different sciences for a long time. The appearance of cybernetics is related to investigation of these processes in their "pure form," apart from their concrete manifestation in any given material system. Special sciences are concerned with processes of control and self-regulation of functions along with the "flesh" of the objects they study. Cybernetics investigates them, abstracting itself from the substrate on which they are manifested, and studies control processes as something inherent to all self-regulating systems. Having made the laws of control and self-regulation the subject of a special science, cybernetics provided the opportunities for deeper investigation thereof from the standpoint of materialistic dialectics as well.

After it became apparent that the laws of cybernetics have universal significance for self-regulating and self-developing systems and objects, there appeared a tendency to replace the laws of dialectics with the laws of cybernetics. Some scientists and philosophers attribute the status of a dialectical category to cybernetic concepts. This trend merits special analysis since it is fraught with serious consequences. First of all, we must define the specifics of the cybernetic and philosophical approach to analysis of self-regulating and self-developing objects.

As we know, the specifics of materialistic dialectics as a science consist of investigating the source of self-development of reality and human knowledge. Dialectics has always dealt with the laws of self-development as laws of systemic and organized objects. A classical example is Das Kapital by Marx.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

UDC 669.293:621.793.6

USSR

SOSUL'NIKOVA, M. A., L'VOV, V. S., KARMANOVA, A. V., and KULIKOVA, L. N., Siberian Metallurgical Institute

"Mechanism of Low-Temperature Deterioration of Protective Coatings on Metals"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Chernaya Metallurgiya, No 2, 1970, pp 118-120

Abstract: An investigation was made of the mechanism of low-temperature oxidation of niobium disilicide produced by the thermodiffusion of specimens of technically pure niobium (98.5% Nb; 1.11% Ta) in a powdered mixture of Si, Al_2O_3, and NH_4Cl in a temperature interval 500-1000° C. The mechanism of low-temperature deterioration of the coating is presented and a temperature is found at which the process at the fastest rate.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

UDC 620.186.14:669.24

USSR

TARNOVSKIY, G. A., GRATSIANOV, YU. A., OVCHAROV, V. P., YAKUKHINA, L. I., CHIRKOVA, S. N., and KULIKOVA, L. P., Ural Scientific Research Institute of Ferrous Metals

"Nature of Nonmetallic Inclusions in Alloy 58N Billets"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 8, Aug 73, pp 44-46

Abstract: Results of correlated studies on the contamination of billets with nonmetallic inclusions are presented. The billets were batch produced (vacuum induction melting) and produced by new means using electron-beam (EBR) and plasma-arc (PAR) remelting, and were made from 58N invar alloy containing (in %): 53 Ni, 0.02 C (max), 0.5-0.8 Mn, 0.2 Si, balance-Fe. The contaminants consist mainly of titanium nitride and alumina minerals. The technological schemes of melting: open induction melting + EBR and open induction melting + PAR provide not only significant lowering of inclusion content but also producing metal free from large (greater than 7.5 microns) inclusions. Both production methods can be recommended for the industrial manufacture of alloy 58N. From the aspect of minimum inclusion content the EBR method is preferred, but for producing the required nature of inclusions and degree of dispersity the PAR method is better. Two tables.

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USSR

KULIKOVA, L. V., VASIL'YEV, A. F., TROPIN, V. P., et al

"IR Method for the Analysis of a 45-% Wetting Powder PCC and DDT"

V sb. Khim. sredstva zashchity rast. (Chemical Plant Protactive Agents), Moscow,, Vyp 3, 1973, pp 128-132 (from RZh-Khimiya, No 20, Oct 73, Abstract No 20N470)

Translation: An IR method has been proposed for the analysis of a 45-% wetting powder PCC (polychlorocamphene) and DDT. It has been established that presence of fillers, PAV and adhesion additive in the powder does not interfere with the analysis of PCC and DDT. Prior to the analysis the PCC and DDT solutions were filtered to remove the filler. Analytical bands used are 1310 cm^{-1} for PCC and 1100 cm^{-1} for DDT.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

UDC 620.18

USSR

KULIKOVA, L. V. (Engineer), LANSKAYA, K. A. (Doctor of Technical Sciences), and MOISEYEV, A. A., Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin; All-Union Institute of Heat Engineering imeni F. E. Dzerzhinskiy

"Changes in the Structure and Properties of Certain Austenitic Steels Under Service Conditions"

Moscow, Teploenergetika, No 1, Jan 72, pp 43-46

Abstract: The service reliability study involved E501, EP399, and EP400 iron-chromium-nickel steels tested within 670-720°C. The stability of the structure and the properties served as the principal criterion. The changes in both structure and property levels as a function of service length during a major overhaul period (generally, once a year) were studied on the branch pipes of an experimental superheater coil. The test pieces were analyzed for their mechanical properties, microstructure, composition of electrolytic deposits, hardness and microhardness and lattice parameters of the solid solution. The study is detailed and the data are presented in tables and curves. Of all tested steels, EP400 demonstrated the highest structural

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KULIKOVA, L. V. (Engineer), et al, Teploenergetika, No 1, Jan 72, pp 43-46

and property stabilities, while EP399 was least stable in both respects. In EP501 steel, the structural and property stabilities were lower than in EP400; however, the mechanical properties of EP501 after 30,000 hrs of service appeared to be higher. The high-temperature strength of EP501 and its fairly satisfactory structural and property stabilities make this steel qualified for more extensive service test in real heat engineering units. Despite its satisfactory behavior in service, EP400 seems to lack the necessary workability. The test data on EP399 steel have so far been inconclusive and a longer service testing period is suggested. (2 illustrations, 4 tables, 3 bibliographic references).

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

UDC: 621.373.826:62

VYSOTSKIY, V. Z., GAPONOV, S. V., KULIKOVA, N. P., PETROVSKAYA, M. P., SALASHCHENKO, N. N.

"Precision Laser Machining of Foil"

Elektron. prom-st'. Nauch.-tekhn. sb. (The Electronics Industry. Scientific and Technical Collection), 1972, No 4, pp 93-94 (from RZh-Radiotekhnika, No 12, Dec 72, abstract No 12D487 by A. L.)

Translation: A method is described for making masks of thin foil (Cu, Nb, Al, Mo, W) 20-60 μm by using a laser. The pulse duration of the laser emission was varied over a range of $3 \cdot 10^{-4}$-$5 \cdot 10^{-8}$ s. Straight-through machining of the masks is done at durations of the order of 10^{-6} s, but the outline of the mask is distorted in this mode due to ejection of a considerable quantity of metal. With a reduction in pulse duration to $5 \cdot 10^{-8}$-10^{-7} s, a layer about 1 μm thick is removed from the surface of the mask during the laser burst, and the outline of the mask is not as distorted.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

UDC 616.89-008.46-053.2-035.356:577.164.1

DERGACHEV, V. V., PIVOVAROVA, G. N., KHAMAGANOVA, T. G., SHAGINYAN, Ye. V., KRASNUSHKINA, N. A., KULIKOVA, N. V., and MOKROVSKIY, V. B., Medico-Biological Faculty, Second Moscow Medical Institute imeni N. I. Pirogov and Department of Higher Nervous Activity Institute of Hygiene of Children and Adolescents, Ministry of Health USSR

"Orotic and Folic Acids and Vitamin B_{12} in the Treatment of Children with Memory Disorders"

Moscow, Sovetskaya Meditsina, Vol 33, No 7, Jul 70, pp 78-82

Abstract: Since the genetic apparatus contained in all cells preserves not only phylogenetic but also ontogenetic information, and since nucleoproteins and nucleic acids are essential constituents of the memory mechanism, a study was undertaken in which the cofactors and precursors of proteins and nucleic acids -- orotic acid, folic acid, and vitamin B_{12} -- were administered to a group of children with disturbed memory. The results indicated, that even though short-term memory, attention, and certain other mental functions were not affected, long-term memory improved significantly. Positive results can be obtained only if treatment is begun early, before marked organic changes develop in the central nervous system.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

1/2 016 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--PREPARATION AND PROPERTIES OF A BARIUM SILICAT ALUMINA CEMENT -U-

AUTHOR-(02)-SAVELYEV, V.G., KULIKOVA, N.V.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(2), 245-7

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CEMENT, ALUMINA, BARIUM COMPOUND, SILICATE, MECHANICAL STRENGTH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1105 STEP NO--UR/0153/70/013/002/0245/0247

CIRC ACCESSION NO--AP0134791

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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

2/2 016 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0134791

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. QUICK SETTING CEMENTS, STABLE IN DRY AND MOIST AIR, ARE PREPD. FROM TECH. BACO SUB3, AL SUB2 O SUB3, SIO SUB2, AND PROSYANOVSK KAOLIN (38PERCENT AL SUB2 O SUB3, 46PERCENT SIO SUB2) IN FORMULATIONS DESIGNED TO PROVIDE RATIOS OF 2BAO.SIO SUB2 TO BAO.AL SUB2 O SUB3 1:1, 2:1, 3:1, AND 4:1 BY WET MILLING TO PRODUCE PARTICLES SMALLER THAN 60 MU, PRESSING, AND FIRING AT 1200-1350DEGREES FOR TIME PERIODS SUCH AS TO ACHIEVE THE MAX. TEMP. IN 1, 2, 4, AND 6 HR. THE OPTIMUM PROPERTIES OF THE CEMENT ARE OBTAINED FOR (2BAO.SIO SUB2)-(BAO.AL SUB2 O SUB3) EQUALS 3:1, A FIRING TEMP. OF 1350DEGREES, AND A HEATING CYCLE OF 2 HR. THIS COMPN. MAINTAINED STRENGTHS OF LARGER THAN 500 KG-CM PRIME2 AFTER 90 DAYS HOLDING IN AIR, MOIST AIR, AND H SUB2 O. FACILITY: MOSK. KHIM. TEKHNOL. INST. IM. MENDELEEVA, MOSCOW, USSR.

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(5)

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UDC 615.616.24-003.656.6

BEZRODNYKH, A. A., KASPAROV, A. A., MAZUROV, V. I., KOCHETKOVA, T. A., RAZDVADOVSKIY, YE. F., SIDOROVA, N. V., KULIKOVA, T. P., GALITSINA, I. Z., ZAMARAYEVA, T. V.

"Antifibrosis Effect of Polyvinylpyridine-N-Oxide as a Compound to Prevent the Development of Silicosis"

Nauch. tr. Irkutsk. med. in-t (Scientific Works of the Irkutsk Medical Institute), 1972, vyp 110, pp 52-53 (From RZh--Farmakologiya. Khimioterapevticheskiye Sredstva. Toksikologiya, No 3, Mar 73, Abstract No 3.54.874)

Translation: The polymers polyvinyl-pyridine-2- and 4-N-oxides had an effect on the degree of expression of histologic alterations in the early stages of the development of experimental silicosis (10 days) when administered intratracheally and, especially, hypodermically. These polymers normalized the indexes of the oxidation processes in the lung tissue and the myrocardium. After one, three and six months of the experiment, the polymers with a molecular weight of 40,000 to 80,000 retarded the development of fibrosis, reduced the amount of neutrally soluble collagen and

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BEZRODNYKH, A. A., et al., Nauch. tr. Irkutsk. med. in-t, 1972, vyp 110, pp 52-53

normalized the amino acid composition of the lung tissue, the indexes of the oxidation phosphorylation and the activity of the intracellular enzymes. On intratracheal administration of polymers with a molecular weight of 50,000 to 1,500,000, the development of catarrhal bronchitis and bronchiolitis was noted.

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USSR

UDC: 621.373:530.145.6

BYKOVSKIY, V. F., GORELIK, A. V., [redacted], KUKHMISTROV, V. S., OSTAPENKO, Ye. P., and SHEVCHENKO, Yu. N.

"Exciting Ion Lasers With an A-C Current of Industrial Frequency"

Elektron. tekhnika. Nauchno-tekhn. sb. Gazorazryadn. pribory (Electronic Engineering, Scientific-Technical Collection, Gas Discharge Devices) 1970, No. 3(19), pp 28-32 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3D251)

Translation: The possibility of exciting ionic lasers with an a-c current of industrial frequency is demonstrated. The peculiarities of their operation in single- and triple-phase excitation are investigated. Author's abstract

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

UDC 616.322-002.1-079.4:[616.931+616.931-003.97

FAYERMAN, N. N., GALUNINA, Z. I., BULATOVA, N. I., ZAGUMAN'YENTSEVA, N. S., and KULIKOVA, V. V., Gorki Medical Institute and Gorki Institute of Epidemiology and Microbiology

"Differential Diagnosis of Diphtherial Tonsillitis in Carriers of Diphtheria Bacilli"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 9, 1971, pp 42-46

Abstract: In order to confirm the correctness of a diagnosis of "tonsillitis + diphtheria carrier state" and differentiate such tonsillitis from the atypical forms of diphtheria prevalent today, 521 hospitalized patients were kept under clinical observation. The dynamics of the titer of diphtheria antitoxin in the blood were studied and the titers of agglutinins and anti-O-streptolysin were studied. Low antitoxin titers in the acute period of the disease and 30- to 50-fold increase in antitoxin titers during convalescence confirmed the diagnosis of diphtheria. An increase in anti-O-streptolysin in the absence of shifts in the antitoxin titer implied a streptococcal etiology of the tonsillitis. The isolation of diphtheria

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GAYERMAN, N. N., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 9, 1971, pp 42-46

bacilli at this time suggested an accompanying bacteria carrier state. Bacteriological diagnosis of diphtheria can be hastened by the use of human embryo fibroblasts. Diphtheria toxin in nasopharyngeal washings can be detected in such cultures within 24 to 48 hours.

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USSR UDC 621.382.2

ALMAZOV, A.B., KULIKOVA, YE.V., RYZHIKOV, I.V., KUZHETSOVA, YE.N., KURINNYY, V.I.

"Capacitance Of Abrupt Electron-Hole P-N Junction Allowing For Charge Of Mobile Carriers"

Elektron. tekhnika. Nauchno-tekhn. sb. Poluprovodn. pribory (Electronic Technology. Scientific-Technical Collection. Semiconductor Devices), 1970, Issue 3(53), pp 15-23 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1B121)

Translation: Approximations are considered which make it possible to obtain analytical expressions for the capacitance of the space charge layer, allowing for the shielding effect of the free carriers with a low level of injection during negative and small positive biases. For consideration of an abrupt p-n junction, equal doping is assumed for both regions, disregarding the compensation of the impurity atoms and the recombination of the carriers in the space charge region. The above assumption is also correct for a high level of injection, but with the condition that the voltage at the p-n junction at some kT/q is less than the contact potential difference. An experimental test was conducted on unsymmetric p-n junctions formed by ionic doping in crystals with a concentration of acceptors $(2.5 \div 4.0) \cdot 10^{12}$ cm^{-3}; the thickness of the n-region amounted to 0.6 micron, and the concentration of donors changed from 10^{20} to 10^{12} cm^{-3}. 2 ill. 14 ref. V.M.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

UDC 621.039.58:629.12

USSR

KULIKOVSKAYA, Ye. L.

Zashchita of deystviya radiovolny na primerakh sudostroitel'noy promyshlennosti) (Protection From the Effect of Radio Waves Based on Examples From the Industry)

Leningrad, "Sudostroyeniye", 1970, pp 152

Annotation. This book sets forth the existing methods of determining the intensity of radio-frequency irradiation; data are cited from an investigation of the conditions and nature of irradiation of personnel involved in setting up and operating high- and ultra-high frequency devices; methods are recommended for protection from irradiation under conditions found in shipbuilding plants, on maritime vessels, and at shore radio centers. The book is intended for engineers and technical workers and middle technical personnel of scientific research institutes, plants of the shipbuilding industry and marine transport, and for workers in technical safety and industrial sanitation. It can also be useful to students in radiotechnical faculties of higher and middle level technical education institutions.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

KULIKOVSKAYA, Ye.L., Sudostroyeniye, 1970, pp 152

PREFACE

At plants of the shipbuilding industry and in the maritime fleet, powerful devices which emit electromagnetic energy are being introduced. New and complex problems arise concerning the protection of people whose work involves the servicing of these devices. The present book is the first attempt to summarize the material compiled by the author in a study of the working conditions of those engaged in tuning, regulating, testing, and operation of high- and ultra-high frequency devices. The research work was conducted at the Laboratory of Physical Factors of the State Scientific Research Institute of Labor Hygiene and Occupational Diseases, under the direction of Candidate of Medical Sciences Yu. A. Osipov (deceased), and in the Sector for the Improvement of Working Conditions, TsNIIMF (Tsentral'niy Nauchno-Issledovatel'skiy Institute Morskoy Floty Central Scientific Research Institute of the Maritime Fleet) under the direction of Candidate of Technical Sciences Ye. P. Zagorskiy, with effective help from the Electro-Radionavigational Office, the Basin Sanitary Epidemiological Station, the Division of Labor Protection of the Baltic State Maritime Steamship Line, and the Division of Communications and Radionavigation and the Division of Inspection of Labor

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

KULIKOVSKAYA, Ye. L., "Sudostroyeniye," 1970, pp 152

Protection of the Black Sea State Maritime Steamship Line.
The book embraces a wide sphere of problems, although because of its limited size many theoretical and practical aspects are not included. The aim of the book is to discuss the sources of irradiation, to acquaint the reader with methods of measuring it, and to give an impression of the possible intensities of irradiation in various types of work and its biological activity. Substantial attention is given to the choice of effective measures of protection from irradiation by radiowaves. The author takes this occasion to express sincere appreciation to all those who have helped in collecting and arranging the research material which is the foundation of this book, and also expresses profound gratitude to the reviewers, M. M. Semov and A. V. Bogdanov for their essential observations in proofreading the manuscript and to A. A. Mikhaylova and S. S. Ivanov for help in arranging the material. All observations about the book and requests should be directed to the "Sudostroyeniye" Publishing house at the following address: Leningrad, D-65, 8 GOGOL Street

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KULIKOVSKAYA, Ye. L., "Sudostroyeniye," 1970, pp 152

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AUTHOR--KULIKOVSKAYA, YE.L.

K

COUNTRY OF INFO--USSR

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DATE PUBLISHED-------70

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2/3 030 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AM0129340

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TABLE OF CONTENTS: PREFACE 3. CHAPTER I DISTRIBUTION OF THE ELECTROMAGNETIC FIELD IN INDUCTION AND RADIATION ZONES 5. II METHODS FOR DETERMINATION OF INTENSITY OF IRRADIATION BY ELECTROMAGNETIC WAVES OF HIGH ULTRA HIGH FREQUENCY 11. III ELECTROMAGNETIC FIELDS OF HIGH AND ULTRA HIGH FREQUENCIES AT WORKING SITES 25. IV BIOLOGICAL EFFECT OF RADIO WAVES 76. V MEASURES FOR PROTECTION OF INDUSTRIAL HIGH FREQUENCY HEATING EQUIPMENT AGAINST THE EFFECT OF ELECTROMAGNETIC WAVES 89. VI MEASURES FOR PROTECTION AGAINST THE EFFECT OF ELECTROMAGNETIC WAVES IN BUILDING AND REPAIRS OF SHIP RADIO AND RADAR STATIONS 109. VII MEASURES FOR PROTECTION AGAINST THE EFFECT OF ELECTROMAGNETIC WAVES IN OPERATION OF SHIP RADIO STATIONS 125. VIII PROTECTION OF THE PERSONNEL OF TRANSMITTING CENTERS OF STEAMSHIPS AGAINST RADIO WAVE IRRADIATION 135. IX MEASURES FOR PROTECTION OF SHIP RADAR EQUIPMENT AGAINST THE EFFECT OF ELECTROMAGNETIC WAVES 139. X MEDICAL MEASURES DURING THE EFFECT OF HIGH FREQUENCY AND ULTRA HIGH FREQUENCY ELECTROMAGNETIC RADIATIONS ON THE ORGANISM 144. BIBLIOGRAPHY 146. THE BOOK DEALS WITH THE EXISTING METHODS FOR DETERMINATION OF INTENSITY OF RADIO FREQUENCY RADIATION, INVESTIGATION OF CONDITIONS AND CHARACTER OF IRRADIATION OF THE PERSONNEL ENGAGED IN PRODUCTION AND OPERATION OF HIGH FREQUENCY AND ULTRA HIGH FREQUENCY EQUIPMENT, METHODS FOR PROTECTION AGAINST IRRADIATION.

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3/3 030 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AM0129340

ABSTRACT/EXTRACT--THE BOOK WAS WRITTEN FOR ENGINEERING TECHNICAL PERSONNEL EMPLOYED BY SCIENTIFIC RESEARCH INSTITUTES, SHIP BUILDING INDUSTRY AND SEA TRANSPORT, WORKERS OF SAFETY TECHNIQUES AND INDUSTRIAL SANITATION; IT CAN BE USEFUL ALSO TO COLLEGE AND TECHNICUM STUDENTS.

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KULIKOVSKIY, A.G.

temperature hydrodynamic approximation, taking into account the energy exchange between electrons and ions; electron thermal conductivity; and ion drag. The self-similar solution has the form of a temperature wave propagating through a given "noise" level at a finite velocity. Between the temperature wave front and the vacuum-target interface a shock wave occurs, at whose front the electron temperature is continuous while the hydrodynamic parameters and ion temperature undergo discontinuities. At the target face the ion component of temperature goes to zero, while the electron component has a non-zero value. Calculations show that there are two distinct modes of heat propagation, namely subsonic and supersonic.

Barmin, A. A., and A. G. Kulikovskiy.
Boundary conditions at the surface of a discontinuity occurring from the interaction of powerful radiation with metal; IN: Sbornik. Nauch. konf. In-t mekh. Mosk. universiteta. Moskva, May 22-24, 1972. Abstracts of papers. Moskva, 1972, 7. (RZhMekh, 9/72, no. 9D920) (Translation).

The structure is studied of the narrow transition zone which appears upon the interaction of powerful beamed radiation with metal, for the case in which the incident radiation is entirely absorbed. A complete system of boundary conditions is obtained for the surface discontinuity which is used to model the transition zone.

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USSR

UDC 619.614.48

POLYAKOV, A. A., Academician, All-Union Academy of Agricultural Sciences imeni Lenin, KULIKOVSKIY, A. V., and ANDRYUNIN, Yu. I., Candidate of Veterinary Sciences, All-Union Research Institute of Veterinary Sanitation

"Studies on Disinfection of Bacteria and Spores by Gamma Rays"

Moscow, Veterinariya, No 4, 1973, pp 26-31

Abstract: The ultrastructure of Staphylococci, Listeria, and anthrax spores was studied with an electron microscope following their exposure to different doses of gamma rays from a ^{60}Co source. For electron microscopy, the cells and spores were fixed with osmic acid, defatted with ethanol, and embedded in methacrylate for sectioning. Exposure of the bacteria to different doses of radiation, including bactericidal doses (0.3 Mrad for Listeria and 0.5 Mrad for Staphylococcus), elicited only minimal changes consisting of localized dissolution of plasma membrane, a less dense cytoplasm, vacuolization of the nuclear region, and aggregation of the nuclear strands. Exposure of the anthrax spores to 0.5 and 1 Mrad of irradiation caused the sporoplasm volume to increase, the outlines of the different coats to be less well differentiated, and germinating spores were noted. A 2 Mrad dose was sporocidal; spore outline became diffuse,
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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

POLYAKOV, A. A. and ANDRYUNIN, Yu. I., Veterinariya, No 4, 1973, pp 26-31

and coat layers became indistinct. The internal structure was poorly differentiated and contained many dense bodies in the sporoplasm. The results showed that gamma rays exert their disinfectant action without exerting pronounced structural changes in bacterial vegetative cells and spores, and death occurs instantaneously after exposure. Sublethal doses induce germination in spores.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

UDC 576.851.48.095.18:541.454

POLYAKOV, A. A., PAVLOVA, I. B., and KULIKOVSKIY, A. V., All-Union Scientific Research Institute of Veterinary Sanitation and Moscow Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR

"Dynamics of Structural Changes in E. coli and Staph. aureus Following Application of Alkalies"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 11, 1971, pp 31-35

Abstract: The bactericidal effects of sodium and potassium hydroxide on E. coli and Staph. aureus were investigated by electron microscopy. The alkalies dissolve the outer cell membrane in 5-10 min, further dissolve and create perforations in the outer membrane and attack the cytoplasmic membrane in 30-45 min, and completely destroy both membranes and break the cytoplasm and karyoplasm into granular segments of various electron density in 60-80 min. The minimum effective concentrations of the alkalies is 0.2% with respect to E. coli and about 0.9% with respect to Staph. aureus. It is concluded that the alkalies saponify the lipid fraction of the membranes, after which enzymes destroying the protein and mucopeptide fraction are released. Staph. aureus is more resistant to alkalies because its membrane is made of a smaller portion of lipids and a larger portion of mucopeptides.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

UDC 576.851.511.094.71.095.18:615.281

TRZHETSETSKAYA, T. A. and KULIKOVSKIY, A. V., All Union Institute of Veterinary Sanitation

"Structural Changes in Spores From a Virulent Strain of Bacillus anthracis After Treatment With Disinfectants"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 8, 1971, pp 15-17

Abstract: Spores from the typical virulent B. anthracis strain No 66 were created with sporicidal solutions of three alkalies. Caustic soda (1.1%) at first attentuated and sometimes dissolved the spore membrane and cortex. Longer exposure resulted in rupture of the membrane and outflow of the sporoplasm. Hydrochloric acid (0.8%) also destroyed the surface structures of the spore with consequent outflow of the sporoplasm, which was found to contain osmiophilic conglomerates. Treatment of spores with chloramine (0.55% active chlorine) did not rupture the surface structures but produced clarification and vacuolation of the sporoplasm.

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USSR

UDC: 621.371.33

BLAGOV, C. I., KORENBERG, Ye. B., and KULIKOVSKIY, B. I.

"Experimental Investigation of the Radio Wave Propagation at 200 MHz in Tunnels"

V sb. Shakhtn. radiosvyaz' (Mining Radio Communication--collection of works) Moscow, 1970, pp 11-17 (RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3A240)

Translation: The results are given of experiments on radio wave propagation in tunnels at frequencies of 200 MHz. The signal attenuation is 20 dB at a distance of 100 m. Four illustrations. V. Ch.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

UDC 621.375.82

MALYSHEV, B. N., KANAUKH, N. P., PARAMONOVA, N. A., KULIKOVSKIY, B. N.

"Space-Energy Characteristics of the Liquid Circulation of $POCl_3Sn$-Cl_4Nd Lasers"

V sb. Kvant. elektronika (Quantum Electronics -- Collection of Works), No. 1, Moscow, 1971, pp 139-140 (from RZh-Fizika, No 7, Jul 71, Abstract No 7D1062)

Translation: The space-energy characteristics of a $POCl_3SnCl_4Nd$ circulation liquid pulsed laser were investigated and compared at various flow rates of the active liquid through the laser cell: at rest and for laminar and turbulent flow of the liquid. Authors abstract.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

UDC: 621.373:530.145.6

MALYSHEV, B. N., KANAUKH, N. P., PARAMONOVA, N. A., KULIKOVSKIY, B. N.

"Space-Energy Characteristics of a $POCl_3SnCl_4Nd$ Liquid Circulation Laser"

V sb. Kvant. elektronika (Quantum Electronics--collection of works), No 2, Moscow, 1971, pp 139-140 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5D172)

Translation: The space-energy characteristics of a $POCl_3SnCl_4Nd$ liquid pulse laser of the liquid-circulation type are studied and compared for various rates of flow of the active liquid through the laser cell: for quiescent, laminar and turbulent liquid flow. Two illustrations, one table, bibliography of one title. Resumé.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

III. Mathematical Cybernetics

USSR A. Theory of Control Systems

UDC: 519.1

KULIKOWSKI, Juliusz Lech

"Algebraic Fundamentals of Analyzing Images With Complex Structure"

Pr. Inst. cybern. stosowan. PAN (Works of the Institute of Applied Cybernetics, Polish Academy of Sciences), 1972, No 6, pp 5-30 (from RZh-Kibernetika, No 5, May 73, abstract No 5V541 by the author)

Translation: The paper outlines a general algebraic theory of description and analysis of graphic images with complex structure. The theory rests on the so-called algebra of relations developed by the author and being a special case of Boolean algebra. The algebra of relations, in particular, gives the possibility of constructing a description of complex images in the language of simple images, without restricting the numbers of possible local values of images in separate points. The second part of the paper discusses a number of examples of formal convergence of complex relations

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KULIKOWSKI, Juliusz Lech, Pr. Inst. cybern. stosowan. PAN, 1972, No 6, pp 5-30

having a simple geometric interpretation. In particular, different kinds of isomorphisms and holomorphisms of relations are discussed. The third part of the paper defines a number of basic geometric concepts in a discrete metric plane, and in particular the concept of a unit vector, straight line, parallel straight lines, and angles between straight lines. Exact definition of these concepts is necessary for proper interpretation of discrete images.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

UDC: 621.398.3

BROMBERG, E. M., KULIKOVSKIY, K. L., and MOREV, B. V.

"Self-Correcting Analog-Digital Converter of the Low-Voltage, Pulse-Time Type"

Leningrad, Priborostroyeniye, No 5, 1972, pp 13-17

Abstract: The device described in this article, written by members of the V. V. Kuybyshev Polytechnical Institute, is an analog-digital converter designed to overcome the deficiencies of most instruments of that type, low sensitivity and relatively poor accuracy. The device employs a new method of self-correction through which the errors in the output code, the coefficient connecting the input voltage with the output code and depending on the amplifier gain as well as the rapidity of change in the balancing voltage, and finally the changes in the scale factor resulting from nonlinearity of the amplifier transfer function and the deviations of the balancing voltage from linearity, cannot affect the accuracy of the converter's operation. This new method differs from the conventional one in that it requires only two standards for the transformation of even a substantially nonlinear function. A block diagram of the converter is given together with a theoretical explanation. Experiments with it showed

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UDC: 621.398.3

BROMBERG, E. M., et al, Priborostroyeniye, No 5, 1972, pp 13-17

that it has an error of 0.05%, with a measurement limit of 50 mV and within the temperature range of -30 to +50° C.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

UDC 621.394.14

KULIKOVSKIY, L. F., MOROZOV, V. K., ALEKSANDROV, O. P., MITEL'MAN, M. B.,
Kuybyshev Polytechnical Institute imeni V. V. Kuybyshev

"A Device for Compressing and Transmitting Textual Data With Coding by Word"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 36, Soviet Patent No 288021, class 21, filed 7 Jul 69, published 3 Dec 70, pp 50-51

Translation: This Author's Certificate introduces a device for compressing and transmitting textual data with coding by word. The device contains an input register, a converter-encoder, control logic circuits, and an output puncher. As a distinguishing feature of the patent, the data traffic handling capacity of the communications channel is increased by connecting the above-mentioned encoder to some inputs of the shift register, while its input is connected to other inputs of the shift register through switches which are controlled from an AND circuit and are connected to the encoder outputs. The output of the shift register is connected to the puncher through a series-parallel output register.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

UDC 51:621.391

KULIKOVSKIY, O. V. and BATAYEV, V. M.

"The Use of Error-Correcting Codes in the Digital Transmission of Color Polygraphic Images"

Tr. ucheb. in-tov svyazi m-vo svyazi SSSR (Proceedings of the Communications Educational Institutes of the USSR Ministry of Communications), No 63, 1973, pp 159 - 165 (from RZh Matematika, No 11, Nov 73); Abstract #11 V566

Abstract: The use of error-correcting codes to transmit color polygraphic images over communication channels is examined. Comparisons are made between the frequency band width required to transmit the image information in natural code and that required when error correction is done at all stages of code combination and at the highest levels only, using Hamming, Feyer, and Abramson codes.

Abstract by the authors.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

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UDC: 629.7.036.3.011.4(088.8)

MARKVIT, YU. M. and KULIKOVSKIY, P. V.

"Test Bed for Testing an Aviation Power Unit"

USSR Author's Certificate No 334500, filed 28 Aug 70, published 6 Oct 72 (from RZh-34 Aviatsionnyye i Raketnyye Dvigateli, No 4, Apr 73, Abstract No 4.34.91 P)

Translation: A test bed is patented for testing an aviation power unit. The test bed contains an aerodynamic nozzle with an exit cone and the tested engine with a cooling channel. All of these are set in a pressure chamber. In order to reduce the power consumed during starting, the cooling channel is connected by means of a pipeline to an autonomous exhaust system. In the channel behind the pipeline a two-position baffle is set for closing off the latter during starting and for disconnecting the exhaust device during an operating regime. This test bed differs from others in that the baffle is made in the form of a partition while the cavity of the channel beyond is joined to the atmosphere in order to gain air for cooling during a working regime. Original article: 3 illus. Resume.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

UDC: 620.001.42

MARKVIT, Yu. M., KULIKOVSKIY, P. V.

"A Stand for Testing an Aircraft Power Plant"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 12, Apr 72, Author's Certificate No 334500, Division G, filed 28 Aug 70, published 30 Mar 72, pp 164-165

Translation: This Author's Certificate introduces: 1. A stand for testing aircraft power plants. The installation contains an aerodynamic nozzle with exit cone and the test motor with cooling channel all installed in a pressure chamber. As a distinguishing feature of the patent, the start-up power demand is reduced by using tubing to connect the cooling channel to a self-contained suction system, and by installing a two-position baffle behind the tubing in the channel to cover it during starting and to cut off the suction system under operating conditions. 2. A modification of this stand distinguished by the fact that the baffle is made in the form of a diaphragm, and the cavity of the channel behind it communicates with the atmosphere so that cooling air can be drawn into it under working conditions.

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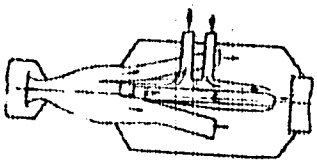
"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

MARKVIT, Yu. M., KULIKOVSKIY, P. V., USSR Author's Certificate No 334500



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USSR

KULIK-REMEZOVA, V.

"A Unique Heart Operation"

Leningrad, Leningradskaya Pravda, 17 Mar 72, p 3

Abstract: V. I. Kolesov, a researcher in the treatment of coronary disease, has worked out a thoraco-coronary shunt which connects a lateral thoracic vessel to a malfunctioning coronary artery to restore normal circulation. A complex case is presented in which this method was successfully used in Leningrad at the Medical Institute imeni Academician I. P. Pavlov. The unique aspect of the operation is that it was performed over 7 hours after the patient suffered clinical death as the result of acute myocardial infraction. The impaired coronary artery was replaced with a healthy artery from the thoracic wall.

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USSR

UDC 669.788:548.526

KAZAKOV, D. N., KUNIN, L. L., and LITVINOVA, N. F., Moscow

"Experimental Evaluation of the Role of Surface Reactions in Studies of Hydrogen Permeability Through Titanium, Nickel, and Copper"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 2, Mar-Apr 73, pp 91-95

Abstract: From the expression for theperiod of instability L, $L = \frac{l^2}{6D} + \frac{2l}{3K}$, at permeation of H through a membrane of thickness l, taking into account the diffusion and kinetic resistances 1/D and 1/K on both sides of the membrane, the values of D and K can be determined by measuring L. The solubility can be determined from a previously given expression (Khokhrin, V. N., et al., Zh. Fiz. Khimii, 1968, 42, No 3, p 805) for the density j of a stationary flow,

$$j = \frac{S_{entry} - S_{exit}}{1/D + 2K},$$

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

KAZAKOV, D. N., et al., Izvestiya Akademii Nauk SSSR, Metally, No 2, Mar-Apr 73, pp 91-95

where S_{entry} and S_{exit} are determined by the pressure of H on both sides of the membrane. The methods of the experimental determination of H permeability through Ti, Ni, and Cu and the derived L/l dependences on l and temperature dependences of H solubility are shown. From the three investigated metals, a noticeable kinetic resistance to H permeation is exerted by titanium and also by nickel at sufficiently high temperatures. Specimens of Cu did not show a noticeable influence of the kinetic factor in the investigated temperature interval. Three figures, two tables, seventeen bibliographic references.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

UDC 575.1+577.3

KULIN, Ye. T.

"Regulation of Gene Functions and the Possible Effect of Radiofrequency Fields on These Functions"

Minsk, Voprosy Genetiki i Selektsii (Aspects of Genetics and Selection), "Nauka i Tekhnika Publishing," Minsk, 1970, p 301

Abstract: Literature data permits identification in cells of the following mechanisms involved in the changes and regulation of gene functions: 1) conformational changes of chromatin with change in the physicochemical conditions in the cell; 2) formation and decomposition of complexes of nucleic acid with proteins with or without the participation of enzymes; 3) formation and decomposition of complexes of nucleic acids with specific repressors, synthesized with the participation of generegulators; 4) mechanisms of gene interaction manifested in dominance, action of gene controllers, and other manifestations of subordination in the gene hierarchy.

An analysis of these mechanisms revealed that their action is based on the play of inter- and intramolecular forces (1-7 kilocalories per gram-molecule), with most of their components comprising polar molecules with definite electric

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USSR

KULIN, YE. T., Voprosy Genetiki i Selektsii (Aspects of Genetics and Selection), "Nauka i Tekhnika Publishing," Minsk, 1970, p 301

characteristics. The polarity of the components' mechanisms regulating the gene functions makes possible their intensive interaction with the radiofrequencies of the electromagnetic fields (REMF). As a result of this interaction, changes in the weak links of these mechanisms, and consequently changes in the functional condition of the gene, may develop.

On the basis of examination of the transformation processes of REMF energy in the molecular cell substrate and experimental data concerning its physiological reaction to radiofrequency action, the hypothesis about the possibility of selective action of the radiofrequency field on the functions of the genes is advanced. The degree to which this hypothesis may be valid is analyzed in the literature data on genetic effects developing under the influence of REMF.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

UDC 575.24

GONCHAROVA, R. I., and KULIN, Ye. T., Institute of Genetics and Cytology, Academy of Sciences Belorussian SSR

"Mutagenic Action of Radio-Frequency Fields"

Minsk, Izvestiya Akademii Nauk BSSR, Seriya Biologicheskikh Nauk, No 5, 1970, pp 128-130

Abstract: Drosophila melanogaster flies were subjected to the action of radio-frequency fields produced by the UVCh-40 (field A, frequency 38 ± 3 Mhz) and Luch-58 (field B with a frequency of 2375 ± 50 MHz) medical generator in order to study the effects of the fields on the development of recessive, sex-linked lethal mutations. The exposure used for field A was 5 seconds. For exposures of 10-15 seconds, all of the flies perished because of a thermoselective effect produced by the field. Exposure to field B, which produced less severe immediate biological effects, was for 10 minutes. After exposure to the action of field A, male flies were crossed with CLB females 1-3, 5-7, 7-9, and 10-12 days later and the frequency of mutations in the progeny was determined. The results were not conclusive. An increased frequency of mutations, which was associated with the action of field A on spermatozoons at the time when they were in the spermatid

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GONCHAROVA, R. I., and KULIN, Ye. T., Izvestiya Akademii Nauk BSSR, Seriya Biologicheskikh Nauk, No 5, 1970, pp 128-130

stage (this corresponded to the 5-7th and 7-9th days after irradiation), was noted in only some of the experiments. Exposure to field B has no effect on the frequency of mutations.

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Metrology, Mapping, Graphics

USSR UDC 538.22.082.7

KHINEV, N. I., KULINICH, A. G., TSYNKUSH, P. V.

"Electroluminescent Method of Measurement of Magnetostriction"

Moscow, Zavodskaya Laboratoriya, No 12, 1972, pp 1492-1494.

Abstract: A method is suggested for measurement of the magnetostriction of ferromagnetic materials in a dynamic mode using electroluminescent sensors. The sensitivity of an installation operating on this principle is no less than existing tensometric and mechanical-optical devices.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

KULINICH, G. L.

"The Limiting Behavior of the Solution of a System of Stochastic Differential Equations without After Effect"

Teoriya Veroyatnostey i Mat. Stat. Mezhved. Nauch. sb. [Theory of Probabilities and Mathematical Statistics, Interdepartmental Scientific Collection], 1972, No 7, pp 85-96 (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1975, Abstract No 1 V127 by the author).

Translation: A multivariate stochastic differential equation

$$d\xi(t) = a(t, \xi(t))\,dt + \sum_{k=1}^{m} \sigma_k(t, \xi(t))\,dw_k(t) + \int \gamma(t, \xi(t), u)\,\tilde{\nu}(dt, du),$$

is studied, where $a(t, x)$, $\sigma_k(t, x)$, $k = 1, \ldots, m$, $\gamma(t, x, u)$ are non-random vector functions with values R^m, $x \in R^m$, $u \in R^m$; $w_k(t)$ are univariate Wienerian processes, independent of each other; $\tilde{\nu}(t, A) = \nu(t, A) - t\Pi(A)$, $\nu(t, A)$ is a Poisson measure in R^m, $M\nu(t, A) = t\Pi(A)$; processes $w_k(t)$, $k = 1, \ldots, m$ and measure $\nu(t, A)$ are independent of each other. Asymptotic

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KULINICH, G. L., Teoriya Veroyatiostey i Mat. Stat. Mezhved. Nauch. sb. 1972, No 7, pp 85-96.

normality of the random quantity $t^{-1/2}f(t, \xi(t))$ is proven where $t \to \infty$, where $f(t, x)$ is a certain function.

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USSR

UDC: 669.[illegible].8-[illegible].79

BRAYNIN, I.YE., [illegible], V.I., [illegible], V.S., [illegible], V.P., [illegible], Z.A., ZHUNEVA, N.D., and CHUVASHOVA, Z.S., Donets Polytechnic Institute and Central Scientific-Research Institute of Ferrous Metallurgy

"Nature of Nonmetallic Inclusions in Titanium-Modified Cast Iron"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 5, 1970, pp 141-143

Abstract: Investigations were conducted of the nature of nonmetallic inclusions in cast iron with various (from 0.05 to 0.76%) titanium supplements to determine the role of the latter in the graphitization of basic blast-furnace cast iron used for casting of large-mass ingot molds. Samples were taken from ingot molds, modified with brand TG-Ch4 (96-98% Ti) titanium sponge, and from cast iron from the stock, remelted in an induction furnace from conversion cast iron of the following composition (%): 4.14 C, 0.67 Si, 0.42 Mn, 0.041 S, 0.074 P. A weight of titanium (99.7% pure) was introduced into the molten cast iron at a temperature [illegible]°C. The nonmetallic inclusions were studied by x-ray structural analysis of electrolytically-separated deposits and also by a local x-ray method directly on slides. Metallographic investigation of the experimental samples indicated that the addition of titanium caused a whole series of inclusions, the content of which

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BRAYNIN, I.YE., et al, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 5, 1970, pp 141-143

increases with a rise in titanium content. The following compounds were detected: TiO, FeO TiO_2, TiO_2, Ti_2O_3, Ti_3O_5, Ti_4O_7, Ti (C, N); titanium nitrides in pure form were seldom encountered. The absence of contact of titanium compounds with graphite and enlargement of dimensions of the latter were established. This confirms the work of V.I. Baturova, in which it was postulated that nonmetallic titanium inclusions are not graphitization centers. The increased resistance of large-mass ingot molds, cast from basic blast-furnace cast iron modified with titanium sponge, is associated with the enlargement of graphite flakes and with the increase in the ferrite content in the metal base caused by the indirect action of titanium, (binding oxygen and nitrogen into stable compounds) and by the action of hydrogen, introduced by the titanium sponge.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

UDC: 519.21

KULINICH, G. L.

"Asymptotic Behavior of the Unstable Solution of a Stochastic Homogeneous Diffusion Equation"

Teoriya veroyatnostey i mat. stat. Mezhved. nauch. sb. (Probability Theory and Mathematical Statistics. Interdepartmental Scientific Collection), 1971, vyp. 5, pp 81-87 (from RZh-Kibernetika, No 11, Nov 71, Abstract No 11V112

Translation: Let $\xi(t)$ be the solution of a stochastic homogeneous diffusion equation

$$d\xi(t) = a(\xi(t))\,dt + \sigma(\xi(t))\,d\omega(t), \quad t \geq 0.$$

Let the coefficients $a(x)$ and $\sigma(x)$ satisfy the conditions of existence and uniqueness of the solution, and let

$$\lim_{|x|\to\infty} \frac{f(\gamma|x)}{\sqrt{x}\int_0^{|x|} [|a'(u)\sigma^2(u)|]^{-1}\,du} = \begin{cases}\sigma_1 (\gamma > 0)\\ \sigma_2 (\gamma < 0),\end{cases}$$

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KULINICH, G. L., Teoriya veroyatnostey i mat. stat. Mezhved. nauch. sb., 1971, vyp. 5, pp 81-87

where $f(x)=\int_0^x \exp\left\{-2\int_0^u \frac{a(v)}{\sigma^2(v)}\,dv\right\}du, \quad 0<\sigma_t<\infty.$

The author finds an explicit form of the limiting distribution of the random quantity $\frac{f(\xi(t))}{\sqrt{t}}$ as $t\to\infty$. Consideration is given to the problem of finding the limiting distribution of the solution $\xi(t)$ itself in the case of some normalization $\frac{1}{B(t)}$. Author's abstract.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

UDC: 519.217

KULINICH, G. L.

"On Asymptotic Behavior of the Distribution of the Solution of a Stochastic Nonhomogeneous Diffusion Equation"

Teoriya veroyatnostey i mat. stat. Mezhved. nauch. sb. (Probability Theory and Mathematical Statistics. Interdepartmental Scientific Collection), 1971, vyp. 4, pp 95-102 (from RZh-Kibernetika, No 12, Dec 71, Abstract No 12V161)

Translation: The one-dimensional stochastic diffusion equation

$$d\xi(t) = a(t, \xi(t))\,dt + \sigma(t, \xi(t))\,dw(t)$$

is considered, and the limiting distribution is found for the solution $\xi(t)$ itself or for a certain monotonic function of this solution with normalization of $1/\sqrt{t}$ when $t \to \infty$. Author's abstract.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

USSR

UDC 621.359.3

KULINICH, V. I., BOLOSYUK, YU. M., and YALYUSHEV, N. I.

"The Mechanism for Electrolysis in a Two Layer Bath for a Series of Ions"

Tr. Novocherkas. politekh. in-ta (Works of the Novocherkas. Polytechnical Institute), 259, 1972, pp 107-110 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8L272)

Translation: The elemental electrochemical process was considered as an example of the electrocrystallization of metallic powders in a two layer bath. It is associated with the transfer of one or several electrons from the electrode at the interface surface. The possibility of a tunnelling mechanism for the reaction was substantiated. The calculated value for the tunnelling coefficient D was 0.53 and provided current flow close to the experimental value.

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UNCLASSIFIED PROCESSING DATE--09OCT70

1/3 041

TITLE--HEAT RESISTANT CAST IRONS FOR GLASS MOLDS -U-

AUTHOR-(05)-YAKUBOVICH, B.I., POGODINAALEKSEYEVA, K.M., UDALTSOV, V.I., LUPATKINA, L.I., KULINICH, V.P.

COUNTRY OF INFO--USSR

SOURCE--STEKLO KERAM. 1970, 27(2), 16-18

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--HEAT RESISTANT METAL, CAST IRON, MOLDING MATERIAL, PYREX GLASS, ANNEALING, SILICON, PHOSPHORUS, NICKEL CONTAINING ALLOY, GRAPHITE, GRAIN BOUNDARY, PLASTICITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1955 STEP NO--UR/0072/70/027/002/0016/0018

CIRC ACCESSION NO--AP0112924

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

2/3 041 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0112924

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF CHEM. COMPN. OF FERRITIC ANNEALED CAST IRONS CONTG. GLOBULAR GRAPHITE ON THE RESISTIVITY OF THE DIES TO THERMAL FATIGUE DURING THE MOLDING OF ARTICLES FROM PYREX TYPE GLASS WAS INVESTIGATED. THE EXPTL. CAST IRONS WERE MELTED IN AN INDUCTION ELEC. FURNACE AND WERE TWICE SUBJECTED TO GRAPHITIZING ANNEALING UNDER SIMILAR CONDITIONS (HEATING TO 1000DEGREES, HOLDING THERE FOR 4 HR, COOLING AT A RATE OF 500EGREES PER HR TO 700DEGREES, HOLDING THERE FOR 4 HR, COOLING IN THE FURNACE TO 350DEGREES, AND COOLING IN AIR). AFTER THE ANNEALING, A SMALL PORTION OF THE PEARLITE REMAINED ONLY IN THE PHOSPHIDE EUTECTIC INCLUSIONS. ALL CAST IRONS STUDIED CONTAINED SMALLER THAN 0.01PERCENT S, 0.25-0.35PERCENT MN, AND SIMILAR TO 0.8PERCENT NI. THE C, SI, AND P CONTENT, IN ORDER TO INVESTIGATE THEIR EFFECT ON THE THERMAL STABILITY, WAS VARIED WITHIN THE FOLLOWING LIMITS: C 3.35-3.7, SI 1.7-2.1, AND P 0.05-0.35PERCENT. IN ORDER TO OBTAIN GLOBULAR GRAPHITE, THE CAST IRONS WERE MODIFIED WITH MG. PLUNGERS WERE PREPD. FROM THE EXPTL. CAST IRONS, AND THERMAL STABILITY OF THE CAST IRONS WAS STUDIED. THE CAST IRON CONTG. THE LEAST AMT. OF SI AND P WAS THE MOST STABLE THERMALLY. SI AND P ARE THE ELEMENTS WHICH DECREASE THE THERMAL STABILITY OF FERRITIC HOLDING CAST IRONS. ALLOYING WITH NI INCREASED THE THERMAL STABILITY OF THE CAST IRON WITH INCREASED P CONTENT. ANALOGOUS RESULTS WERE OBTAINED WHEN TESTING CASTINGS OF UNALLOYED CAST IRONS CONTG. GLOBULAR GRAPHITE AND MODIFIED WITH CE-MG 1.

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3/3 041 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0112924

ABSTRACT/EXTRACT--THERMAL FATIGUE CRACKS WERE OBSD. PRIMARILY ALONG THE BOUNDARIES OF THE FERRITE GRAINS AT THE SPOTS OF THE DEPRESSIONS IN THE SURFACE OF THE PLUNGERS AND AT THE SPOTS WHERE GRAPHITE GLOBULES WERE CLOSE TO THE SURFACE. AS THEY PROPAGATE, THE CRACKS INTERSECT THE GRAINS. THE HARMFUL EFFECT OF SI AND P ON THERMAL STABILITY OF ANNEALED CAST IRONS IS APPARENTLY ASSOCD. WITH THE ENRICHMENT OF THE GRAIN BOUNDARIES BY THESE ELEMENTS. WITHIN THE RANGE INDICATED IN THIS WORK, P SHARPLY REDUCES THE PLASTICITY OF CAST IRON. FACILITY: VSES. ZAOCH. POLITEKH. INST., MOSCOW, USSR.

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USSR

UDC 669.15:24'25'

KULINICHEV, G. P., and PERKAS, M. D., Institute of Metal Studies and Metal Physics, Tsentral Imeni I. P. Bardin

"Investigation of the Aging of Austenite of Titanium- and Molybdenum-Alloyed Alloys on the Iron-Nickel Base"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 29, No 5, May 70, pp 1013-1014

Abstract: It was established that a nonuniform decomposition of austenite takes place with the formation of equant face-centered cubic particles of Ni_3Ti inside the austenitic grain and of platy colonies of $(Ni, Fe)_3Ti$ heterophase along the boundaries. A similar nonuniformity of structure leads to the reduction of the lamellar properties of the alloys. The appearance of recovery in austenite is dependent on the solution of the particles of the metastable face-centered cubic phase of Ni_3Ti. The possibility of using austenite aging in conjunction with subsequent martensite aging as one of the possible methods of [illegible] carbon-free steels on an iron-nickel base is considered. In [illegible] alloy the increase in the number and size of face-centered cubic particles of Ni_3Ti, which originate at low aging temperatures and which are capable of growing with retaining to higher temperatures, leads to an increased rate of austenite work hardening with subsequent a [illegible] at higher temperatures.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

1/2 025 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--PHENOMENON OF RECOVERY IN ALLOYS WITH AGEING MARTENSITE -U-

AUTHOR-(03)-ALEKSENKO, E.A., KULINICHEV, G.P., PERKAS, M.D.

COUNTRY OF INFO--USSR

SOURCE--FIZIKA METALLOV I METALLOVEDENIE, FEB. 1970, 29, (2), 335-339

DATE PUBLISHED----FEB70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--SOLID SOLUTION, CHEMICAL DECOMPOSITION, IRON ALLOY, NICKEL ALLOY, MOLYBDENUM ALLOY, COBALT ALLOY, TITANIUM ALLOY, METAL AGING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/0214 STEP NO--UR/0126/70/029/002/0335/0339

CIRC ACCESSION NO--AP0129470

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201620020-6

2/2 025 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0129470

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RECOVERY PHENOMENA EXHIBITED BY MARAGING FE,NI,MO, FE,NI,TI, AND FE,NI,MO,CO ALLOYS WERE STUDIED. THE EXTENT OF THE RECOVERY PROCESS DEPENDED ON THE DEGREE OF DECOMPOSITION OF THE SOLID SOLUTION AND THE DIFFERENCE BETWEEN THE TEMP. OF PRELIMINARY AGEING AND RECOVERY IN EACH CASE. THE EXTENT OF THE RECOVERY ALSO DEPENDED TO SOME EXTENT ON THE PROPORTION OF CO IN THE ALLOYS. IN SOME CASES A METASTABLE PHASE WAS FORMED DURING THE LOW TEMP. AGEING OF THE FE,NI,MO,CO ALLOYS.

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